



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0486; Directorate Identifier 2010-SW-031-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; MD Helicopters, Inc. (MDHI), Helicopters**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for the MDHI Model MD900 helicopters with certain main rotor blade (MRB) retention bolts (bolts) installed. This proposed AD would require a daily check of the position of each bolt and would also require a daily check and a repetitive inspection for a gap in each bolt. The proposed AD would also require, if necessary, removing and inspecting the bolt for a crack and replacing any cracked bolt with an airworthy bolt. This proposed AD is prompted by multiple reports of in-service bolt failures. The proposed actions are intended to prevent failure of a bolt, which could lead to loss of MRB structural integrity and subsequent loss of control of the helicopter.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- **Federal eRulemaking Docket:** Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.

- Fax: 202-493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.
- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact MDHI, Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615, Mesa, AZ 85215-9734, telephone (800) 388-3378, fax (480) 346-6813, or at <http://www.mdhelicopters.com>. You may review copies of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**FOR FURTHER INFORMATION CONTACT:** Roger Durbin, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, ANM-120L, 3960 Paramount Blvd., Lakewood, CA 90712, telephone (562) 627-5233, fax (562) 627-5210, email [roger.durbin@faa.gov](mailto:roger.durbin@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

### **Discussion**

We propose to adopt a new AD for MDHI Model MD900 helicopters with certain bolts installed. This proposed AD is prompted by multiple reports of in-service bolt failures, which could lead to loss of the MRB structural integrity and subsequent loss of control of the helicopter. Although these bolt failures have primarily occurred in the United Kingdom, it is possible that the failures affect MDHI Model 900 helicopters in the

United States. This condition, if not detected, could lead to loss of MRB structural integrity and subsequent loss of control of the helicopter.

### **FAA's Determination**

We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **Related Service Information**

We have reviewed MDHI Alert Service Bulletin SB900-116R1, dated April 9, 2010 (ASB SB900-116R1), which supersedes ASB SB900-116, dated February 24, 2010 (ASB SB900-116).

ASB SB900-116 specifies a repetitive check of the blade retention bolts, part number (P/N) 900R3100001-103 and 900R3100001-105, for a gap and, depending on the outcome of the inspection, removing and inspecting the bolt for damage. The ASB also specifies a repetitive force check of each bolt, P/N 900R3100001-103, and a torque check of each bolt, P/N 900R3100001-105. Lastly, the ASB specifies a daily preflight check of each bolt to examine the position of the bolt and for a gap, and, if any bolt has moved up or down or if there was no gap, removing and inspecting the bolt.

Superseding ASB SB900-116R1 retains the same specifications as ASB SB90016, except that it revises the interval for the bolt force and torque checks from 4-6 flight-hours to 8-10 flight-hours. ASB SB90016R1 also revises the change of force or torque from not more than 10 percent to not more than  $\pm 10$  percent.

### **Proposed AD Requirements**

The proposed AD would require:

- Before the first flight of each day, visually checking each bolt for failure and for a gap between the thrust washer and the retainer.

- An owner/operator (pilot) may perform these visual checks and must enter compliance into the helicopter maintenance records in accordance with 14 CFR 43.9(a)(1)-(4) and 91.417(a)(2)(v). A pilot may perform this check because it involves only a visual check for the position of the bolt and a check for a gap between the thrust washer and retainer and can be performed equally well by a pilot or mechanic. This authorization is an exception to our standard maintenance regulations.

- If there is any indication of bolt failure or if there is no gap between the thrust washer and retainer, before further flight, removing and inspecting the bolt for a crack and replacing any cracked bolt with an airworthy bolt.

- Within 300 hours time-in-service, and thereafter at intervals not to exceed 300 hours TIS, inspecting each bolt for a gap between the thrust washer and the retainer.

- Determining if there is a missing O-ring and installing any missing O-ring.

- If there is no gap between the thrust washer and retainer, before further flight, removing and inspecting the bolt for a crack and replacing any cracked bolt with an airworthy bolt.

- If there is a gap between the thrust washer and retainer, measuring the gap in two locations with a feeler gage. If the gap is too large, removing and inspecting the bolt for a crack, before further flight; and then replacing any cracked bolt with an airworthy bolt.

### **Differences between this Proposed AD and the Service Information**

This proposed AD uses the term “inspect” when describing the action of inspecting a bolt for a crack and inspecting for a gap between the thrust washer and the retainer. The ASB uses the term “check.”

### **Costs of Compliance**

We estimate that this proposed AD would affect 29 helicopters in the U.S. registry. We estimate that operators may incur the following costs in order to comply with this AD: The average labor rate is \$85 per work hour. It would take about .5 work hour to do a gap inspection of each bolt. It would take about 1 work hour to replace a cracked bolt and the required parts would cost \$800 at a total cost per helicopter of \$928.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by Reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new Airworthiness Directive (AD):

**MD HELICOPTERS, INC. (MDHI):** Docket No. FAA-2013-0486; Directorate Identifier 2010-SW-031-AD.

**(a) Applicability.**

This AD applies to Model MD 900 helicopters with a main rotor blade retention bolt (bolt), part number (P/N) 900R3100001-103 or 900R3100001-105, installed; certificated in any category.

**(b) Unsafe Condition.**

This AD defines the unsafe condition as bolt failure. This condition could result in loss of main rotor blade structural integrity and subsequent loss of control of the helicopter.

**(c) Comments Due Date.**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(d) Compliance.**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(e) Required Actions.**

(1) Before the first flight of each day:



(i) Visually check each bolt for failure. Failure of a bolt may be indicated by movement of the bolt out of the bolt hole or by inconsistent extension of the bolt above or below the other bolts being inspected (a failed bolt migrates out of the bolt hole).

(ii) Visually check for a gap between the thrust washer and the retainer, P/N 900R2100009-101 or -103. The thrust washer is depicted as item 2 and the retainer is depicted as item 8 in Figure 1 to paragraph (e) of this AD.

## Gap and Force Check of the Blade Retention Bolts

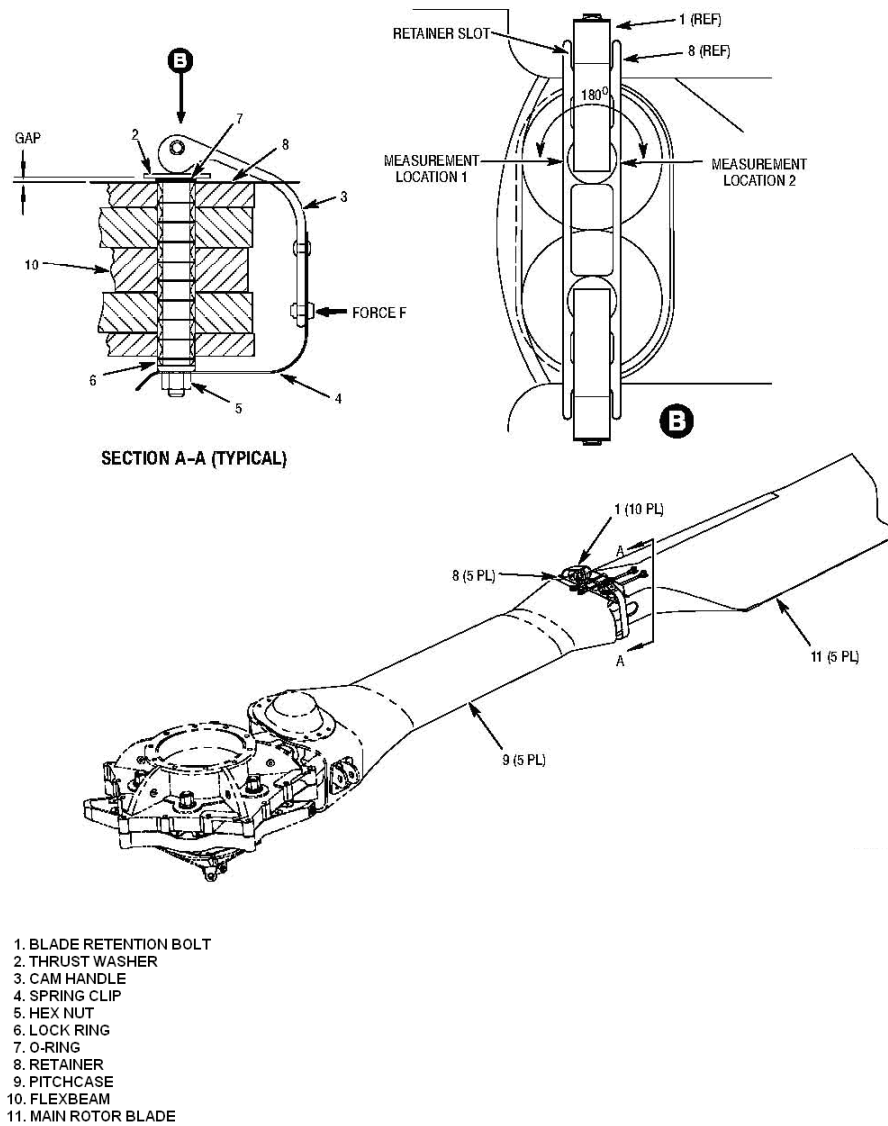


Figure 1 to paragraph (e) of this AD

(iii) The actions required by paragraphs (e)(1)(i) and (e)(1)(ii) may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft maintenance records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1)-(4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417, 121.380, or 135.439.

(iv) If there is any indication of bolt failure or if there is no gap between the thrust washer and retainer, before further flight, remove and inspect the bolt for a crack. Replace any cracked bolt with an airworthy bolt.

(2) Within 300 hours time-in-service (TIS), and thereafter at intervals not to exceed 300 hours TIS, inspect each bolt for a gap between the thrust washer and the retainer.

(i) Determine whether an O-ring is installed. Install any missing O-ring.

(ii) If there is no gap between the thrust washer and retainer, before further flight, remove and inspect the bolt for a crack. Replace any cracked bolt with an airworthy bolt.

(iii) If there is a gap between the thrust washer and retainer, measure the gap in two locations, 180 degrees apart, with a feeler gage. If the gap is more than 0.100 inch (2.54 mm) at either location, before further flight, remove and inspect the bolt for a crack. Replace any cracked bolt with an airworthy bolt.

**(f) Alternative Methods of Compliance (AMOCs).**

(1) The Manager, Los Angeles Aircraft Certification Office, Airframe Branch (ANM-120L), FAA, may approve AMOCs for this AD. Send your request to Roger Durbin, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office,

Airframe Branch, ANM-120L, 3960 Paramount Blvd., Lakewood, CA 90712, telephone (562) 627-5233, fax (562) 627-5210, email [roger.durbin@faa.gov](mailto:roger.durbin@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(g) Additional Information.**

MDHI Alert Service Bulletin SB900-116R1, dated April 9, 2010, which supersedes ASB SB900-116, dated February 24, 2010, neither of which is incorporated by reference, contains additional information about the subject of this AD. For service information identified in this AD, contact MDHI, Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615, Mesa, AZ 85215-9734, telephone (800) 388-3378, fax (480) 346-6813, or at <http://www.mdhelicopters.com>. You may review copies of the service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas.

**(h) Subject.**

Joint Aircraft System Component: 6210: Main rotor blade retention bolts.

Issued in Fort Worth, Texas, on May 29, 2013.

Kim Smith,

Directorate Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

